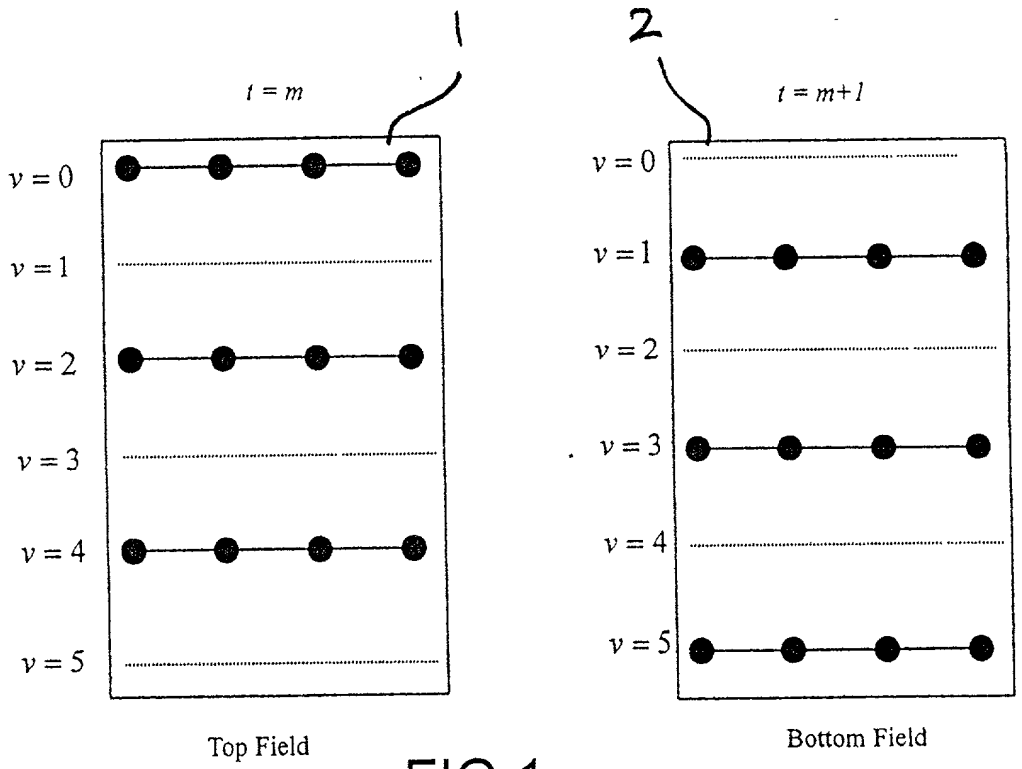

1
2
t = m
t = m+1
v = 0
v = 1
v = 2
v = 3
v = 4
v = 5
v = 0
v = 1
v = 2
v = 3
v = 4
v = 5
Top Field
Bottom Field

FIG 1

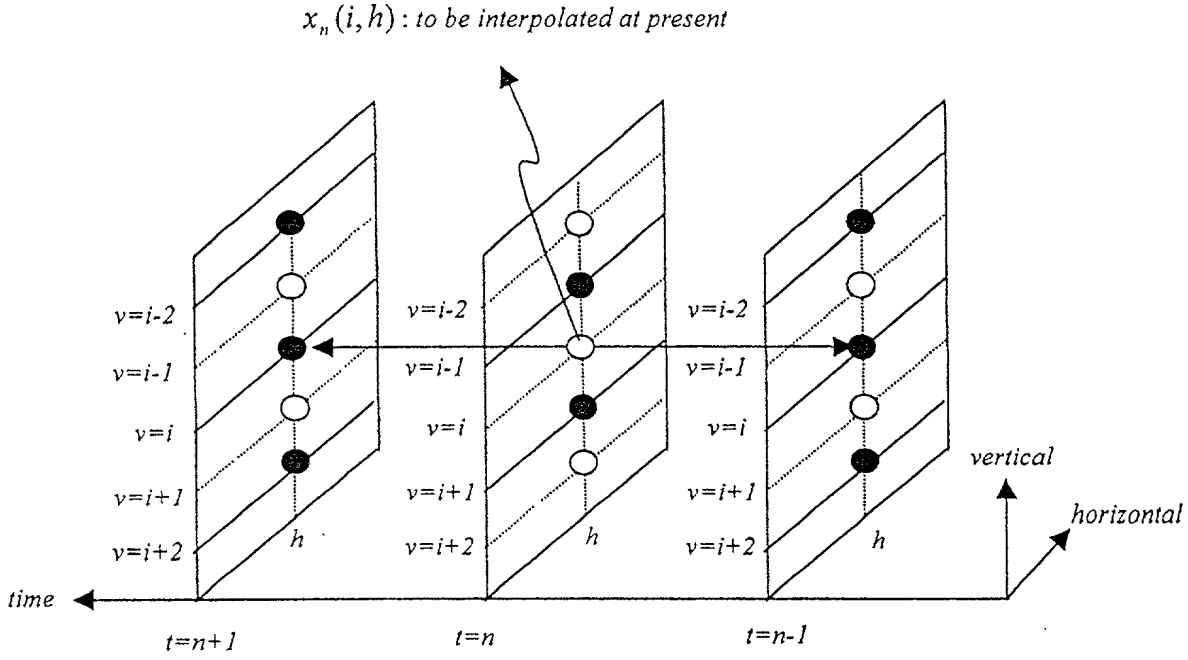
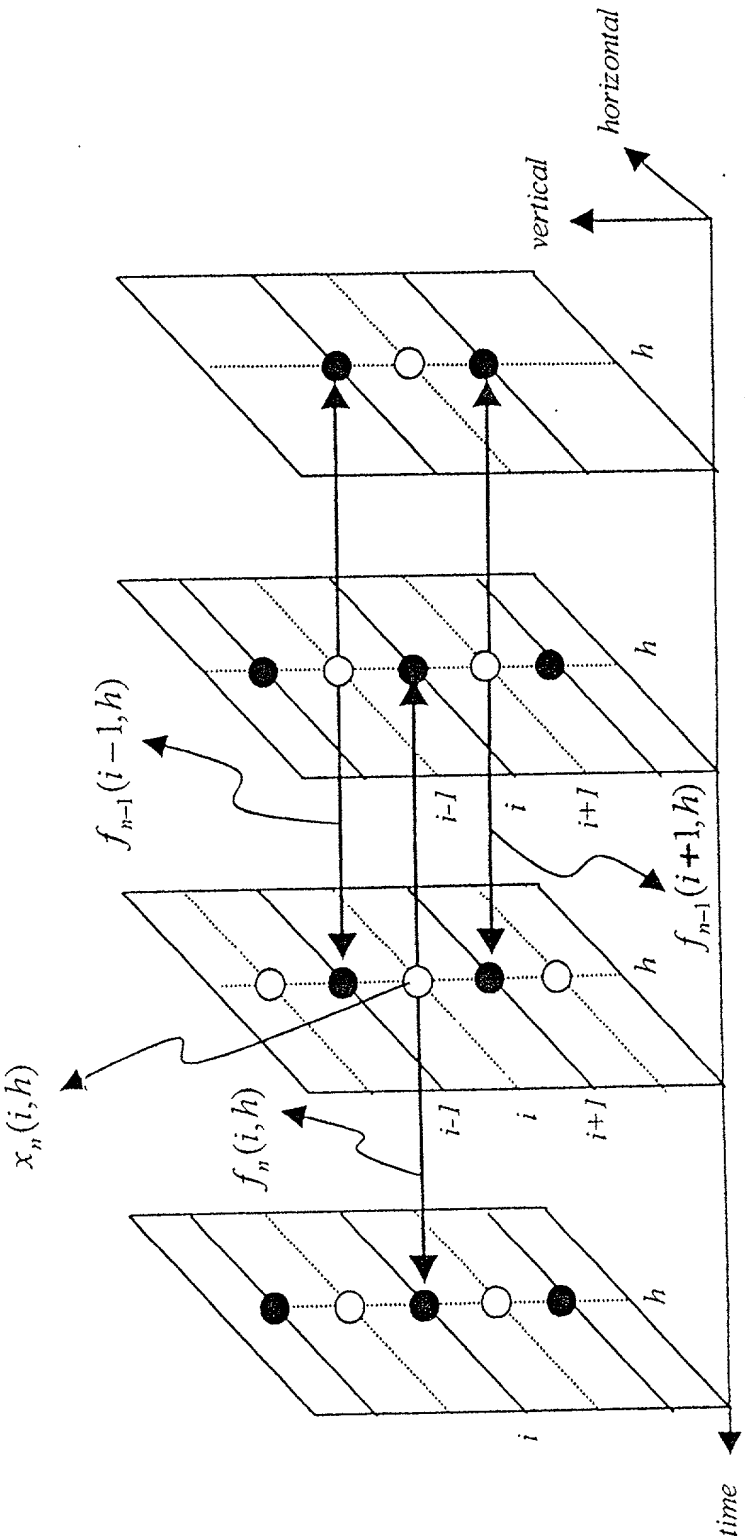

$x_n(i,h)$: to be interpolated at present
v=i-2
v=i-1
v=i
v=i+1
v=i+2
h
time
vertical
horizontal
t=n+1
t=n
t=n-1

FIG 2



$$\phi(i,h) = f_n(i,h) \,||\, f_{n-1}(i-1,h) \,||\, f_{n-1}(i+1,h).$$

FIG 3

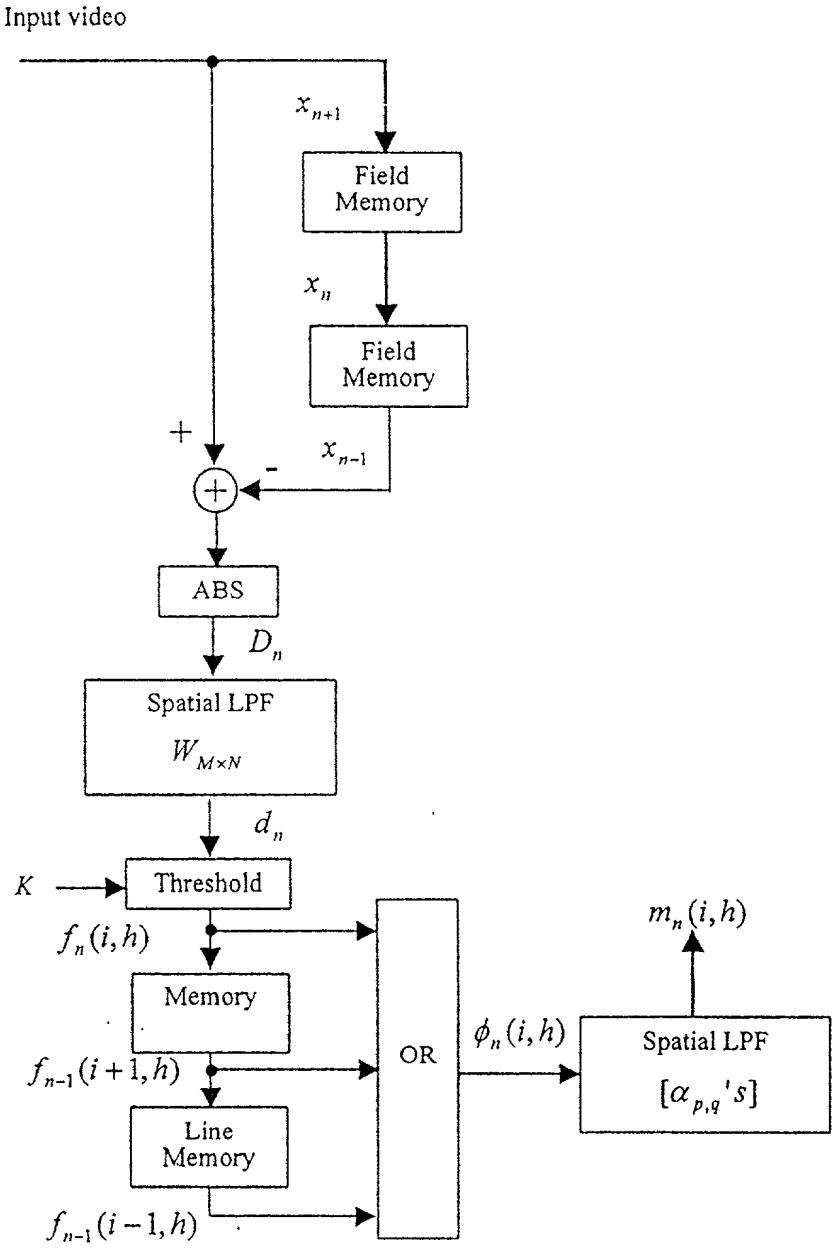

Input video
x_{n+1}
Field Memory
x_n
Field Memory
x_{n-1}
+
-
ABS
D_n
Spatial LPF
$W_{M\times N}$
d_n
K
Threshold
$f_n(i,h)$
Memory
$f_{n-1}(i+1,h)$
Line Memory
$f_{n-1}(i-1,h)$
OR
$\phi_n(i,h)$
Spatial LPF
$[\alpha_{p,q}'s]$
$m_n(i,h)$

FIG 4

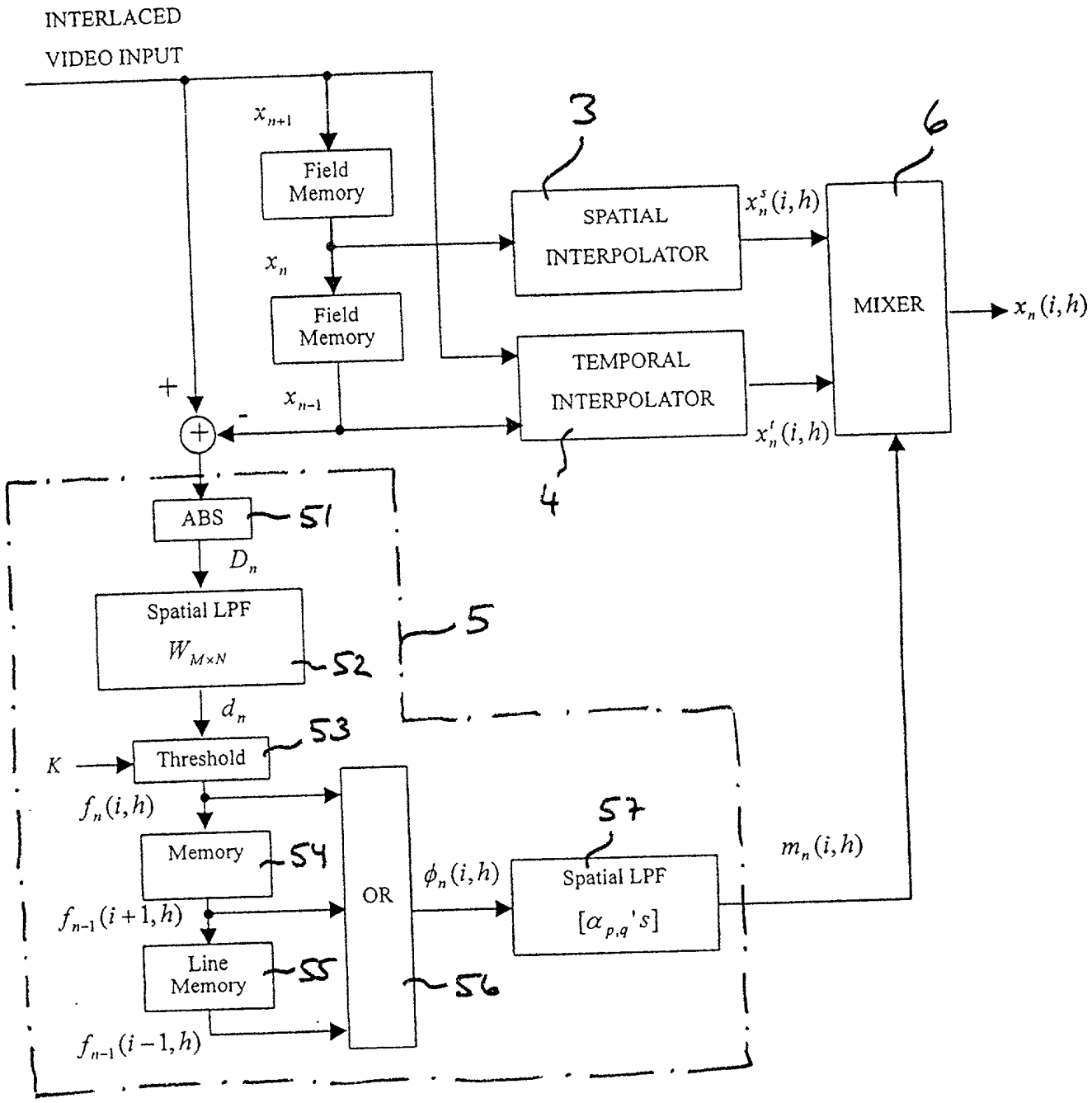

INTERLACED
VIDEO INPUT
x_{n+1}
Field Memory
x_n
Field Memory
x_{n-1}
3
SPATIAL INTERPOLATOR
$x_n^s(i,h)$
TEMPORAL INTERPOLATOR
$x_n^t(i,h)$
4
6
MIXER
$x_n(i,h)$
+
-
ABS
51
D_n
Spatial LPF
$W_{M\times N}$
52
5
d_n
K
Threshold
53
$f_n(i,h)$
Memory
54
$f_{n-1}(i+1,h)$
Line Memory
55
$f_{n-1}(i-1,h)$
OR
56
$\phi_n(i,h)$
57
Spatial LPF
$[\alpha_{p,q}'s]$
$m_n(i,h)$

FIG 5